C.T.M. MOBILITY SCOOTER

8-Series Instruction Booklet

HS-850

HS-890

TABLE OF CONTENTS

INTRODUCTION ----------1

IMPORTANT PRECAUTIONS ----------2

ELECTROMAGNETIC INTERFERENCE AND WARNINGS ----3

IDENTIFICATION OF PARTS ----------5

OPERATING YOUR SCOOTER ----------7

DISASSEMBLING YOUR SCOOTER ----------9

ASSEMBLING YOUR SCOOTER ----------11

CHARGING THE BATTERIES ----------12

CARE AND MAINTENANCE ----------13

TROUBLESHOOTING ----------14

TECHNICAL SPECIFICATIONS ----------15

INTRODUCTION

Thank you and congratulation on purchasing your new C.T.M. Mobility Scooter. It is designed to provide you with transportation ability indoors and outdoors.

We pride ourselves on providing safe and comfortable products. Our goal is to ensure your complete satisfaction. We sincerely hope you enjoy your C.T.M. Mobility Scooter.

Please read and observe all warning and instruction provided in owner's manual before you operate with various convenient function of this scooter. Also, please retain this booklet for future reference.

If you have any question, you can contact :

C.T.M.HOMECARE PRODUCT, INC.
13815 Magnolia Ave. #B, Chino CA 91710
Toll Free : 1-866-466-8168 Tel : 909-590-1388 Fax : 909-590-3365
E-Mail : ctm@ctmhomecare.com http : //www.ctmhomecare.com

or your local dealer:

IMPORTANT PRECAUTIONS

· Only one person at a time could ride a C.T.M. Mobility Scooter.

· Maximum load is HS-850 205 kgs/ 450 lbs & HS-890 227 kgs/ 500 lbs.

· Turn key off before getting on or off.

· Always drive carefully and be aware of others using the same area.

· Always use pedestrian crossings wherever possible. Take extreme care when crossing roads.

· Do not drive on slope exceeding 12 degree, and take extreme care when turning on slope.

· Do not use full power when turning to sharp corner.

· Take great care and drive in low speed when backing up, riding downhill or on uneven surface, and climbing curb.

· Scooter may not operate well in high humidity.

· If you are caught in rain, it is handy to carry a scooter canopy. It offers complete protection for your and scooter.

· Never put scooter in neutral when staying on slopes.

· Follow traffic laws when riding outside.

ELECTROMAGNETIC INTERFERENCE AND WARNINGS

CAUTION: It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your motorized scooter.

Powered wheelchairs and motorized scooters may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such a radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the motorized scooter to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the motorized scooter control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each motorized scooter can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. The immunity level of this motorized scooter model is not known.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types :

1. Hand-held portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie," security, fire, and police transceivers, cellular telephones, and other personal communication devices

> ⚠ **Some cellular telephones and similar devices transmit signals while they are ON, even when not being used**

2. Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle; and
3. Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios

> ⚠ **Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances, such as electric shavers and hair dryers, so far as. we know, are not likely to cause EMI problems to your motorized scooter.**

Motorized Scooter Electromagnetic Interference :

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the motorized scooter control system while using these devices. This can affect motorized scooter movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the motorized scooter.

Warnings :

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect motorized scooters. Following the warnings listed below should reduce the chance of unintended brake release or motorized scooter movement which could result in serious injury.

1. Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the motorized scooter is turned ON;

2. Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;

3. If unintended movement or brake release occurs, turn the motorized scooter OFF as soon as it is safe;

4. Be aware that adding accessories or components, or modifying the motorized scooter, may make it more susceptible to EMI; and

> ⚠ **There is no easy way to evaluate their effect on the overall immunity of the motorized scooter.**

5. Report all incidents of unintended movement or brake release to the distributor listed on the inside front cover of this manual. Note whether there is a source of EMI nearby.

Important Information :

1. 20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994). The higher the level, the greater the protection.

2. The immunity level of this product is at least 20/Vm.

IDENTIFICATION OF PARTS

Before attempting to drive this scooter on your own, it is important that you familiarize yourself with the controls, and how to operate

Figure 1 - HS-890 Front View

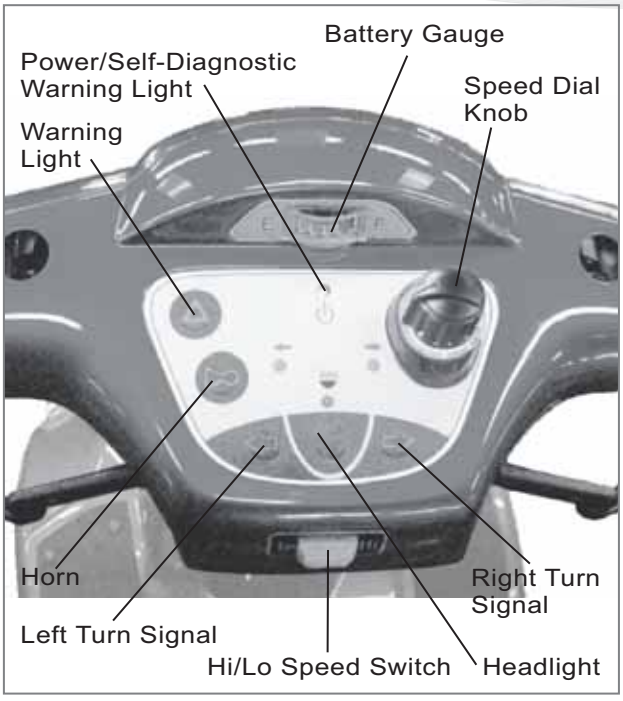

Figure 2 - HS-890 Control Panel

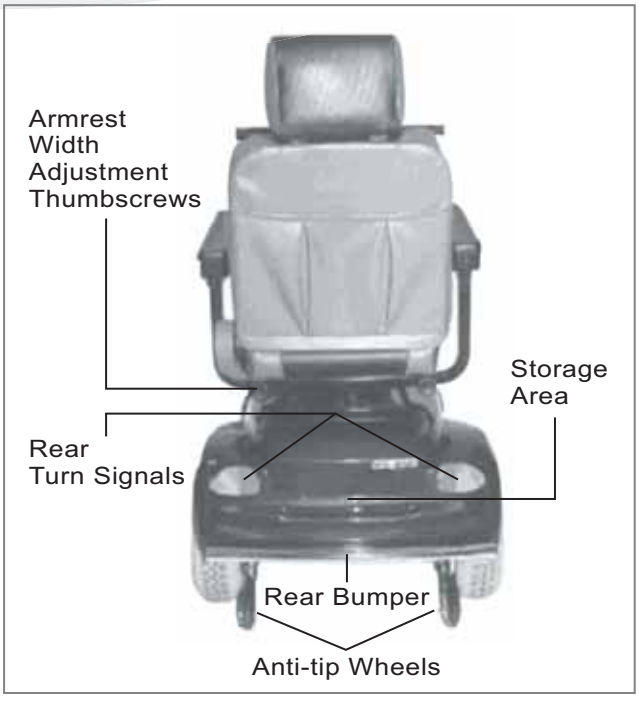

Figure 3 - HS-890 Rear View

FUNCTION OF PARTS :

TOP CONTROL PANEL

· Speed Dial Knob
The Rabbit means fast and Turtle is slow. By turning this you control total speed transferred to thumb controls.

· Battery Gauge
There is a meter shows batteries capacity status.

ADJACENT TO TOP CONTROL PANEL

· Thumb Lever
Pushing right thumb lever moves scooter forward. Pushing left thumb lever moves the scooter backward. (This can be reversed if required by local dealer.) Releasing both, engages automatic brake. These are also your accelerator. The further you depress them, the faster you go. (Subject to the position of the Rabbit/Turtle control).

AT BASE OF STEERING TILLER

· Tiller Angle Adjustment
Pull downward the tiller adjustment to adjust tiller angle and release to lock at comfortable position.

BELOW SEAT

· Seat Height Adjuster
There are three holes on seat tube to adjust seat height. Be sure the detent pin is fully inserted at its new height before sitting.

· Armrest width Adjustment Thumbscrews
Loosen the two thumbscrews to adjust arm width; tighten again to lock in at desired position.

· Legroom Adjuster
There are few holes on front and rear frame tube for adjusting legroom. Pull the toggle latch to loosen and insert the detent pin to locate the position. Push the toggle latch again to lock.

REAR BODY

· Rear Compartment Cover
Open the compartment Cover to access on board charger.

· Anti-tip wheels
Helps keep scooter from tipping over.

· Free-Wheeling Lever

When lever is in N (Neutral) position, scooter can be moved without power.
When lever is in D (Drive) position, scooter can be driven. Normal position is D.

OPERATING YOUR SCOOTER

You could make the following adjustments to increase your comfort when driving.

- **adjust seat height and location**
- **adjust armrest width to comfortable position.**
- **adjust legroom.**

1.Before operating your scooter, check the following:
- free-wheeling lever in D
- speed dial knob is at turtle picture.

2.Sit on scooter and turn on key, Battery Gauge meter should be indicate at F.
The Self-Diagnostic Warning Light should not be blinking.

3.When your hands rest comfortably on handlebars, the thumb levers should be within easy reach. The right lever moves scooter forward, the left one moves it backward. When you release both levers, scooter will stop.

> ⚠ **This scooter has automatic braking system. Release the thumb lever and brake will stop scooter.**

4.Steer scooter by turning tiller toward the way you want to go.

5.Practice driving where there are is No obstacle. Start at the slowest speed and drive forward and backward; make some turns. As you get more comfortable, you can increase speed by turning speed dial toward picture of rabbit.

6.If Battery Gauge indicates E, you should plan to recharge batteries very soon.

7.If scooter stops, locate the circuit breaker on top of battery pack. Push it and try driving again.

8.When you are finished riding, turn off the key before getting off.

9.If you are finished riding for the day, immediately recharge batteries.
See CHARGING THE BATTERIES, page 12.

Keep in mind these rules :

· Release thumb levers and allow scooter to stop completely before changing from forward to reverse, or reverse to forward.
· When turning to corner, swing front wheels widely, so back wheels will turn more tightly.
· Use scooter only where it is safe for walting.
· Drive in low speeds when reversing, riding dowhill, over rainp or curb, or on uneven sukpace, downhills, ramps, curbs, or uneven surfaces.

Other Operating Information :

Hill climbing: You may need to use a higher speed. Turn to lower speed before going downhill.

Down slopes: proceed with downward slopes slowly, and set speed control in proximity of turtle. The closer speed control is set toward turtle, the slower scooter travels. However, this scooter will not self accelerate down hills due to the automatic braking, taking effect should you attempt to drive too fast.

Kerb climbing: Approach slowly from right angles to curb. A slight angle is permissible with a 4-wheel scooter, but a direct approach is needed on a 3-wheel scooter. Do not attempt greater than a 3" curb.

If Self-Diagnostic Warning Light starts to blink, identify problem from chart on page 14 and take action.

If the scooter breaks down and must be moved, get off scooter, engage Free-Wheeling Lever to N, push scooter slowly to a safe location, and push lever back to D.

⚠ **In unlikely event of a panel display error, you need to re-set the display system by cycling the on/off main switch. The display circuitry is independent of the motor control system. A display console error does not affect scooter speed control.**

DISASSEMBLING YOUR SCOOTER

The HS-890's compact design and light weight style make it fit easily into trunk or back seat of most vehicle. No tools are necessary to disassemble scooter.

Remove seat by releasing Seat Rotation Lever (A) and then lift seat off. (See Fig. 4)
Remove rear shroud (B) off scooter. (See Fig. 5)

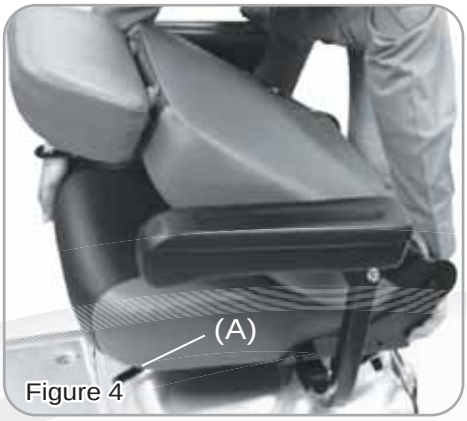

Figure 4

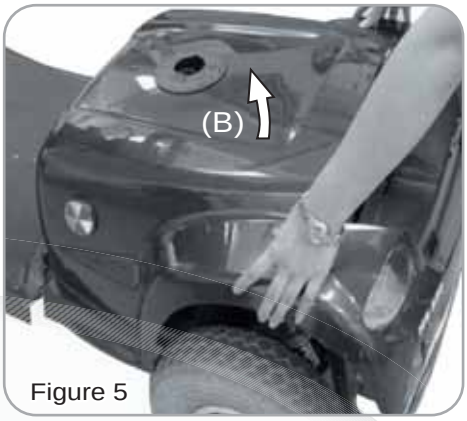

Figure 5

Unscrew two wire connectors (C) between front and rear units. (See Fig. 6)
Detach battery power plugs (E). (See Fig. 7)

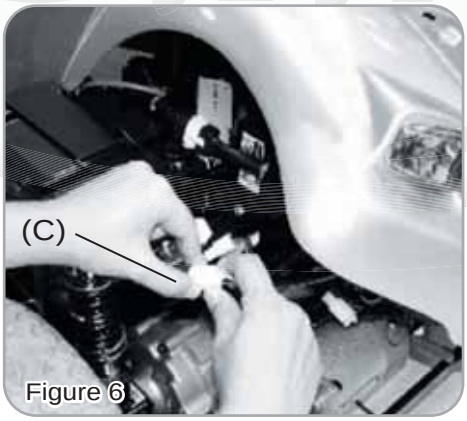

Figure 6

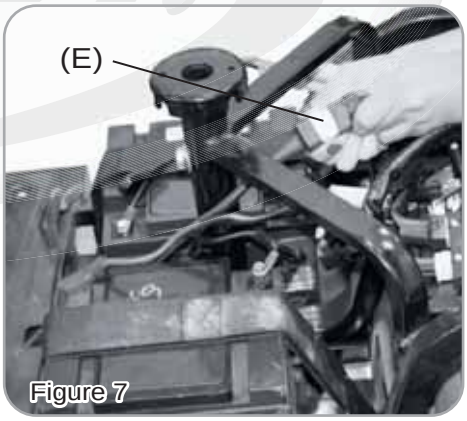

Figure 7

Remove battery fixing Velcro (D). (See Fig. 8)
Remove batteries (F). (See Fig. 9)

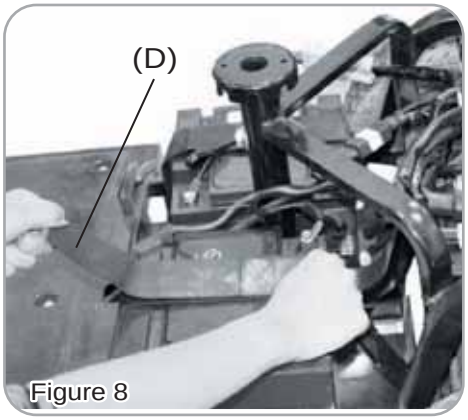

Figure 8

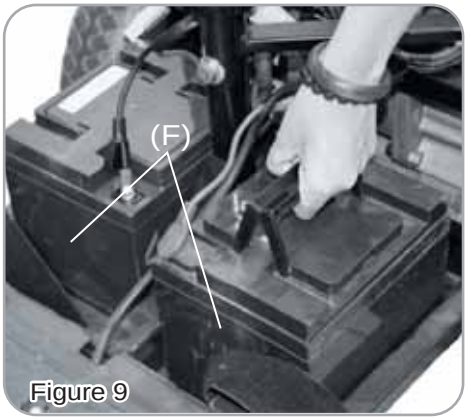

Figure 9

Remove front basket (G) and lower tiller by pulling tiller adjustment (H) and push tiller doun. (See Fig. 10)
When fintsh instruction from figure (4) to figure (10) , there are 5 main parts. (See Fig. 11)

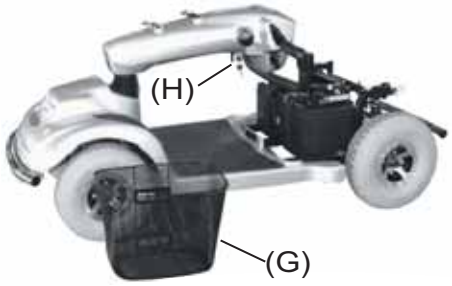

Figure 10

Figure 11

ASSEMBLING YOUR SCOOTER

To assemble scooter, you can repeat disassembly directions in reverse. Abbreviated directions are given below. Refer to Figures on pages 9 - 11 to locate parts.

1.Use the tiller adjustment to move tiller up and out of the way.

2.Place front basket.

3.Place battery pack in battery compartment.

4.Place seat on seat post and tighten seat locker knob.

CHARGING THE BATTERIES

Batteries must be charged before using the scooter for the first time and should be recharged after each day use. You will need the scooter and the battery charger.

Each country may supply different charger. The charging procedure may be different from below.

If you require more details, please contact your authorized dealer.

Be sure the scooter key is in the OFF position

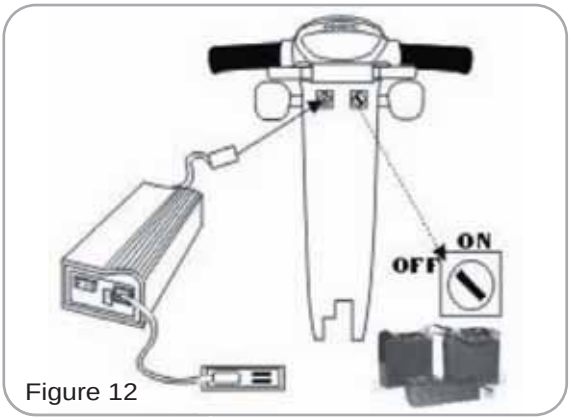

Figure 12

1. Insert battery charger cord into the charger connector on the charger output. Refer to above figure for correct position
2. Plug the other end of the battery charger cable into a standard electrical outlet.
3. Turn the power on. Normally, The LED (Power) Light will turn on when electric current passes.
4. Charging starts. During charging, LED (Charge) will indicate orange light, when it turns to green light, that means well-charged.
5. LED indication
   · LED(POWER) - GREEN LIGHT ON : Power On.
   · LED(CHARGE) - ORANGE LIGHT ON : Charging / GREEN LIGHT ON : Fully Charged
6. Charger Trouble Shooting
   (A)If LED (POWER) light is off
   · Check the input voltage (115V/230V) is the same as you adjust.
   · If light is still off, please check and repair the battery charger.
   (B)If LED (CHARGE) light is off
   · Check to see clips connection is correct.
   · If the battery is fully charged, the LED (CHARGE) light will be off.
   · If light is still off, the battery may be defective.
   (C)If ORANGE light can turn to GREEN
   · The battery can not be charged. Please check and recover it.
   (D)If ORANGE light turns to GREEN immediately
   · Check to see the battery is fully charged, if not, The battery may be defective Check and recover it.

The time needed to recharge will vary depending on the depletion of the batteries. Charging for longer than necessary will not harm the batteries. They can not be overcharged.

Keep in mind these rules :

· Fully charge batteries at least once a month, or more if you use scooter regularly. Charge after each trip exceeding 3 kilometers.
· If storing your scooter for some time (1 month or more), make sure that batteries are fully charged, and on returning, charge them again before using scooter.
· Batteries will only give maximum performance after scooter has been used, and batteries have been recharged up to 10 times. A bit like breaking in a new car.

CARE AND MAINTENANCE

Cleaning Your Scooter :

If your scooter is dirty, use a damp or lightly soapy cloth to wipe it down. Do not use running water to wash or rinse scooter in order to protect electrical parts. Polish with an automotive liquid polish.

Maintaining Your Scooter :

All maintenance and repair of scooter should be done by an authorized dealer.
The following areas required periodic inspection:

- Tire pressure between 30-50 lbs
- All electrical connections are firmly attached

Storing Your Scooter :

Between uses, your scooter is best stored in a dry location.

TROUBLESHOOTING

Here are some suggestions about solving problems you may have with your scooter. There is a Self-Diagnostic Warning Light on the Control Panel. To check the Self-Diagnostic Warning Light, turn on the key and count the number of blinks on the Warning Light.

Number of Flashes	Problem	Solution
1	Battery needs recharging	Recharge the batteries soon.
2	Battery voltage too low to operate scooter	Must recharge before using. Check battery condition and connections.
3	Battery voltage too high	Check battery condition and connections. Contact your authorized dealer to check your battery charger.
4	Short in motor	Contact your authorized dealer.
5	Brake malfunction	Contact your authorized dealer.
6	Thumb lever not in neutral	Contact your authorized dealer.
7	Thumb lever malfunction	Contact your authorized dealer.
8	Motor problems	Contact your authorized dealer.
9	Other internal errors	Contact your authorized dealer.

Other Problems
Low tire pressure: pump up tires to 30-50 lbs.

During charging, light on charger does not change to green: Contact your authorized dealer.

Scooter will not move when key is turned on:

1. Check Power Reserve Indicator on control panel, it should be lighting in green, yellow, and red zones.

2. Check Self-Diagnostic Warning Light, it should be steady. If it is flashing, see chart above for problem identification.

3. Check all electrical connections to be sure they are tight.

4. If none of above correct problem, contact your authorized dealer.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	HS-850	HS-890
Overall Length	57.1"	60.2"
Overall Width	27"	27"
Overall Height	49"	49"
Wheels: Front	13"	13"
Wheels: Rear	13"	13"
Weight w/ Batteries	214 lbs	251 lbs
Max. Speed	9.3 mph	8 mph
Weight Capacity	450 lbs	500 lbs
Ground Clearance	3.3"	3.3"
Grade Climbable	12 degree	10 degree
Curb Climbing	2.4"	2.8"
Turning Radius	68.1"	68.1"
Suspension	Front & Rear	Front & Rear
Brake	Electro-Mechanical	Electro-Mechanical
Seat Type	Sliding and Swivel ReclinCaptain W/Headrest	
Seat Width	19"	22"
Motor Size	700W 5400 r.p.m	700W 5400 r.p.m
Battery Size	(2) 12V. 50Ah	(2) 12V. 50Ah
Battery Weight	69 lbs	69 lbs
Travel Range	23.4 Miles	23.4 Miles
Battery Charger	5A Off Board	5A Off Board
Electronics	On/Off Key Switch, Battery Level Indicator, Speed Control Knob	

*Subject to change without notice. (Issue A 07/02/2014)